Regulation 28: Prevention of Future Deaths report

Mizanur RAHMAN (died 09.03.23)

	THIS REPORT IS BEING SENT TO: [redacted] **Chief Executive Officer** **Office for Product Safety and Standards** **4th Floor Cannon House** **18 The Priory Queensway** **Birmingham** **B4 6BS** [redacted]
1	**CORONER** I am: Adam Smith Assistant Coroner Inner North London St Pancras Coroner's Court Camley Street London, N1C 4PP
2	**CORONER'S LEGAL POWERS** I make this report under the Coroners and Justice Act 2009, paragraph 7, Schedule 5, and The Coroners (Investigations) Regulations 2013, regulations 28 and 29.
3	**INVESTIGATION and INQUEST** On 17 March 2023, E Buckett, HM Assistant Coroner for Inner North London, commenced an investigation into the death of Mizanur Rahman, aged 41 years. The investigation concluded at the end of the inquest on 17 August 2023. I made a determination of accidental death. The medical cause of death was: 1(a) Hypoxic brain injury 1(b) Thermal and smoke inhalation injury

	2 Bronchopneumonia
4	**CIRCUMSTANCES OF THE DEATH** Mr Rahman died on 9 March 2023 at the Royal London Hospital from the effects of smoke inhalation during a fire which took place in the early hours of 5 March 2023 at the 4th floor multi-occupancy flat where he resided. The fire was found to have been caused by a faulty lithium ion e-bike battery which was charging at the time. The e-bike from which the battery came, which was owned by another occupant of the flat, had been heavily modified, notably including a retro-fitted additional battery cage and motor. I found on the evidence, which included that of a London Fire Brigade Fire Investigation Officer (whose evidence was in turn informed by input from the Chief Scientific Adviser at the Fire Science Department, who had examined the e-bike and remains of the charger\battery), that the fire started with a faulty lithium ion battery, probably a battery and charger which did not match and carried different voltage ratings, leading to thermal runaway and catastrophic failure of the lithium ion battery. Despite attempts by occupants of the flat to prevent the fire's escalation, this was not possible and the flat quickly filled with toxic smoke necessitating its evacuation. Sadly, Mr Rahman did not successfully evacuate before he was overcome by the smoke, causing his death.
5	**CORONER'S CONCERNS** During the course of the investigation, including the inquest, the evidence revealed matters giving rise to concern. In my opinion, there is a risk that future deaths will occur unless action is taken. In the circumstances, it is my statutory duty to report to you. The **MATTERS OF CONCERN** are as follows. I have received evidence, in particular from the London Fire Brigade's Fire Investigation Team: • That Mr Rahman's death is the ninth nationally in approximately one year, in six fires attributed to faulty lithium ion batteries. • That the number of fires in London attributed to electric powered personal vehicles has risen consistently and significantly over the last six years and now stands at well in excess of 100 per annum.

	• That there is presently no British or European (e.g. BSI or PAS) standard to control what lithium ion e-bike batteries and chargers can be sold in the UK and that, consequently: o It is easy for people to buy (including online) lithium ion batteries that are not of sufficient quality or otherwise not of an appropriate standard to charge safely. o There is an increased risk of people mixing and matching lithium ion batteries with chargers that carry a different voltage rating. • That the OPSS has the ability to introduce such a standard. • Of how, when a lithium ion battery is charged using a charger with a different voltage rating, this can lead to thermal runaway and catastrophic failure of the battery - a build up of heat, failure of one of the cells within the battery, followed by a chain reaction as the remaining cells fail, all of which can happen quickly and explosively with the emission of sparks and toxic, flammable vapours. I understand that there is currently a product safety review underway, led by the Office for Product Safety and Standards (OPSS) and involving the Home Office (Fire Policy Team) (under the Minister for Crime, Policing and Fire, Chris Philps MP) and a number of other organisations. I do not know the timescale for this review, but it is clear that there is an existing, ongoing and future risk of further deaths whilst it continues to be the case that there are no controls or standards governing the sale in the UK of lithium ion batteries and chargers (and conversion kits) for electric powered personal vehicles. This report is being provided to you given my understanding that the OPSS has the ability to introduce an appropriate standard. Insofar as this power may lie elsewhere, or other individuals or organisations (whether or not involved in the current product safety review) would need to have input into the introduction of such a standard, you are requested to share this report with those individuals/organisations.
6	**ACTION SHOULD BE TAKEN** In my opinion, action should be taken to prevent future deaths and I believe that you have the power to take such action.
7	**YOUR RESPONSE**

	You are under a duty to respond to this report within 56 days of the date of this report, namely by 24 October 2023. I, the coroner, may extend the period. Your response must contain details of action taken or proposed to be taken, setting out the timetable for action. Otherwise, you must explain why no action is proposed.
8	**COPIES and PUBLICATION** I have sent a copy of my report to the following. • The Next of Kin of Mr Rahman • The London Fire Brigade • HHJ Thomas Teague QC, Chief Coroner of England & Wales I am under a duty to send a copy of your response to the Chief Coroner and all interested persons who in my opinion should receive it. I may also send a copy of your response to any other person who I believe may find it useful or of interest. The Chief Coroner may publish either or both in a complete or redacted or summary form. He may send a copy of this report to any person who he believes may find it useful or of interest. You may make representations to me, the coroner, at the time of your response, about the release or the publication of your response.
9	**DATE** **SIGNED BY ASSISTANT CORONER**  29 August 2023